

REMARKS

A. Introduction

Claims 1-14 were pending and under consideration in the application. Claims 15-20 stand withdrawn from consideration.

In the Office Action of April 8, 2008 claims 1-3 and 7-11 were rejected under 35 U.S.C. §102(b) as being anticipated by Ando, et al., U.S. 5,989,759 (hereinafter, "*Ando*").

Claims 1 and 9 were rejected under 35 U.S.C. §102(d) as being anticipated by Hideyuki, et al., JP11265842 (hereinafter, "*Hideyuki*")¹.

Claims 4-6 and 12-14 were objected to as being dependent upon a rejected base claim but were deemed allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In response, the claims are being amended for clarity and to correct informalities. Support for the amendments is found, at least in paragraphs 0048 through 0055 (paragraph references are made with reference to the application as published as US2006/0151710). In addition, claims 4 and 12 are being rewritten in independent form including all of the limitations of the base claim from which they formerly depended. No new matter is being added.

B. Rejections under 35 U.S.C. 102(b)

Claims 1-3 and 7-11 were rejected under 35 U.S.C. §102(b) as being anticipated by *Ando*. *Ando* discloses techniques for forming patterns of a semiconductor integrated circuit where light exposure and charge beam exposure are used together, and a decrease of pattern forming accuracy due to a difference in exposure position between the light exposure and the charge

¹ Applicants understand the reference to be publication JP11265842, by Minami Hideyuki, published September 28, 1999.

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exposure is mitigated. Mitigation techniques disclosed by *Ando* include exposing a first pattern, then adjusting the exposure position of a second pattern on the basis of a latent image of the first pattern, thereby reducing positional displacement between the first and second pattern. *Ando*, col. 2, lines 38-54.

Ando fails to teach or suggest the present invention as recited in claims 1 and 9, wherein an exposure pattern is corrected by deflecting a charged particle beam using correction data based on a difference between a measured image placement and a design data and consideration of a pattern displacement caused by gravity, where the measured image placement is determined by scanning a mask disposed at a posture with respect to gravity that is inverted relative to an exposure posture.

A finding that a claim is anticipated requires that "each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F. 2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Because *Ando* fails to disclose at least the feature of the claims discussed above, independent claims 1 and 9, and their respective dependent claims, claims 2, 3, 7, 8, 10 and 11 are patentable over *Ando*.

C Rejections under 35 U.S.C. 102(d)

Claims 1 and 9 were rejected as being unpatentable over *Hideyuki*. The rejection is improper because Section 102(d) is not applicable.

Section 102(d) only acts as a bar to a United States patent application when the same inventive entity previously filed a foreign application more than 12 months prior to the filing of the US application and the foreign application matured into a patent, i.e., in those situations where an applicant does not claim priority and files an application after the 12 month priority date, and a foreign patent issues before filing in the U.S.

35 U.S.C. 102 states (emphasis added):

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35 U.S.C. 102 Conditions for patentability; novelty and loss of right to patent.

A person shall be entitled to a patent unless -

...

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States

...

JP11265842 has a different inventive entity. Moreover, JP11265842 is assigned to a different assignee, namely Nikon Corp. (Nippon Kogaku KK) instead of Sony Corp. Accordingly, the rejection is improper.

In addition, *Hideyuki* discloses a charged particle beam exposure system designed to prevent "the adhesion of falling foreign matter to the upper surface of wafer". As shown in the figure below, copied from the abstract of publication number JP11265842, *Hideyuki* provides for supporting a wafer 8, having a resist surface 8c upon which a pattern is to be formed, above a charged particle radiator 10, with a mask 3 disposed therebetween.

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CHARGED PARTICLE BEAM EXPOSURE SYSTEM

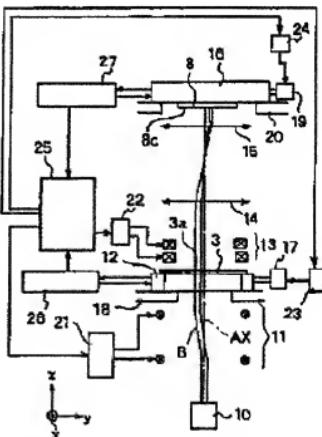
Publication number: JP11265842
Publication date: 1999-09-28
Inventor: MINAMI HIDEYUKI
Applicant: NIPPON KOGAKU KK
Classification:
- **International:** H01L21/027; G03F7/20; H01L21/02; G03F7/20; (IPC1-7): H01L21/027; G03F7/20
- **European:**
Application number: JP19980067020 19980317
Priority number(s): JP19980067020 19980317

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Abstract of JP11265842

PROBLEM TO BE SOLVED: To provide a charged particle beam exposure system which can make high accuracy pattern transfer by preventing the adhesion of falling foreign matters to the upper surface of a wafer.

SOLUTION: A charged particle beam exposure system is provided with a wafer stage 16, which holds a wafer 8 in such a state that a resist applying surface 8c of the wafer 8, upon which a pattern image is projected, is roughly directed to the working direction of the gravity, a mask stage 12 which is faced opposite to the resist supplying surface 8c at a prescribed interval and holds a mask 3, a charged particle radiator 10 which emits a charged particle beam B in a direction which is nearly opposite to the working direction of the gravity, a deflector 13 which forms the pattern image by guiding the charged particle beam B passed through the mask 3 onto the wafer 8, and first and second projection lenses 14 and 15.



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Hideyuki fails to teach or suggest the present invention as recited in claims 1 and 9, wherein an exposure pattern is corrected by deflecting charged particle beam using correction

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data based on a difference between a measured image placement and a design data and consideration of a pattern displacement caused by gravity, where the measured image placement is determined by scanning a mask disposed at a posture with respect to gravity that is inverted relative to an exposure posture.

A finding that a claim is anticipated requires that "each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F. 2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Because *Ando* fails to disclose at least the feature of the claims discussed above, claims 1 and 9 are patentable over *Hideyuki*.

D. Conclusion

In view of the foregoing, it is submitted that claims 1-15 are allowable and that the application is in condition for allowance. Early notice to that effect is respectfully requested.

If any further fees are required in connection with the filing of this amendment, please charge the same to out Deposit Account No. 19-3140.

Respectfully submitted,

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